

WHAT IS CLAIMED

1. A method operating a user device in a shared network, comprising:
receiving a signaling message that includes a rule set associated with a core
network;
5 receiving broadcast information including access information associated with a
shared network; and
applying the shared network information received to the core network rule set
to determine a behavior of the user device.
2. The method of claim 1, wherein the signaling message is a registration
10 accept message.
3. The method of claim 1, wherein the signaling message is a location update
accept message.
4. The method of claim 1, wherein the signaling message is a location update
reject message.
- 15 5. The method of claim 1, wherein the signaling message is a registration
reject message.
6. The method of claim 1, wherein the access information is a location
identity.
7. The method as defined in claim 6, wherein the location identity is a
20 location area, and wherein the user device uses the rule to translate the location area
received into a mapped location area for the associated core network.
8. The method as defined in claim 6, where the location identity is the
network identity.
9. The method as defined in claim 6, where the location identity is an SSID.
- 25 10. The method as defined in claim 6, wherein the location identity is a
routing area identity, and wherein the user device uses the rule to translate the routing
area received into mapped routing area for the associated core network.
11. The method of claim 10, wherein the behavior is transmitting the mapped
location area in a routing area update request.
- 30 12. The method of claim 11, wherein the behavior is transmitting the mapped
routing area in a routing area update request.

13. The method of claim 1, wherein the behavior is transmitting a location area update request for a circuit switched network.

14. The method of claim 1, wherein the behavior is transmitting a routing area update request for a packet switched network.

5 15. The method of claim 1, wherein the behavior is refraining from transmitting a location identity update request.

16. A method of operating a user device in a shared network, comprising:
receiving a registration accept message associated with a core network through
the shared network, the registration accept message including a rule set, the rule set
10 associated with a core network serving the user device through the shared network;
storing the rule set in the user device;
receiving a broadcast message from the radio access network, the broadcast
message including shared network access information;
converting the shared network access information using the stored rule set to
15 determine core network access information;
determining a desired behavior for the user device based on the core network
access information.

17. The method of claim 16, wherein the desired behavior is transmitting a location update request.

20 18. The method of claim 16, wherein the desired behavior is transmitting a location update request to a mobile station controller.

19. The method of claim 16, wherein the desired behavior is refraining from transmitting a location update request.

25 20. The method of claim 16, further comprising receiving a location area identity which is different from a stored location area identity which is stored in the user device, and refraining from transmitting a location update request.

21. A user device, comprising:
a transceiver to transmit and receive signals, the transmitter receiving a
broadcast message from the radio access network, the broadcast message including a
30 broadcast location identity associated with a shared access network; and
a controller coupled to the transceiver, the controller mapping the shared
network access information in the broadcast message to a serving core network

location identity using a stored rule set to determine mapped location identity, and detecting a cell reselection event when the mapped location identity indicates that a core network cell reselection is detected.

5 22. A method of operating a network element to support network sharing, comprising:

detecting a call establishment event for a target user device;

determining a current location identity of the target user device;

mapping the current location identity of the target device to shared access
network location identities using a rule set associated with the target user device and
10 the core network; and

communicating a message according to the mapped access network location identities.

23. The method of claim 22, wherein the step of communicating the message,
further comprises the step of sending a request to the radio network controller to
15 transmit the message to the mapped location identities.

24. The method of claim 22, further including the step in a shared access
network of determining whether a location update accept communication needs to be
sent to the user device.

25. The method of claim 24, wherein the shared access network is a public
20 land mobile network.

26. The method of claim 22, wherein the shared access network is local area
network.

27. The method of claim 22, wherein the network element is in a core
network, and further including the step transmitting a request to the local area network
25 to broadcast a paging message on the mapped access network identity areas.

28. The method of claim 22, wherein the network element is in the access
network, and wherein the step of communicating includes the step in the access
network of sending a page from the shared network according to the mapped access
network location identities in response to a request from the core network including
30 the core network location identities.

29. The method of claim 22, wherein the core network signaling message is received from a core network element and the rule set is attached to the core network signaling message.

30. A network element, comprising:

5 a communication interface between a controller and a system including a shared access network and core networks; and

 a controller coupled to the interface, the controller mapping the shared network access information to serving core network location identities using a stored rule set to determine mapped location identities, and communicating the mapped core
10 network location identities to at least one of the access network and the core network.